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cause of the fish-like odor which it possessed last fall. In filtering large quantities of the water he scarcely obtained more than one or two grains of residue from a thousand gallons of water. Of this a large proportion consisted of small particles of clay and sand, and the balance was mainly composed of Diatomaceæ (*Cyclotella operculata*, *Melosira varians*, *Asterionella formosa*, *Fragilaria capucina*, *Navicula cuspidata*, and *Amphora ovalis*), Desmidiaceæ (*Closterium lunula*, and *Staurastrum gracile*), Oscillatoriaceæ (*Oscillatoria autumnalis*), Palmellaceæ (*Botryococcus braunii*), and Entomostraca (*Anurea heptodon*, *Cyclops quadricornis*, *Cypris tristriata*, and *Cetochilus septentrionalis*). Chemical analysis equally indicated the unusual purity of the water, and gave no clew to the cause of its obnoxious odor. The experiment of placing a small quantity of the microscopic algæ from the filter in distilled water resulted in the production of the well-known odor, after covering the mixture from the air for a few hours, just as it had done in a precisely similar experiment by Prof. N. T. Lupton, of Nashville, Tenn., on the water supply of that city. This would strongly confirm the partially accepted belief that this odor, which so often annoys the residents of our cities, is due to some condition, probably the decay and decomposition of the algæ in the water. No remedy is known except exposure to the air, which soon removes the odor.

POWDERED SULPHUR. — Mr. H. G. Hanks presented at a recent meeting of the San Francisco Microscopical Society three slides illustrating the substitution of powdered sulphur for the more costly and pure sublimed sulphur. Sublimed sulphur presents under the microscope a well-marked appearance of globular particles and botryoidal and stalactitic masses, while the powdered sulphur, which appears the same to the naked eye, is shown as angular fragments of irregular size. The powdered article when sold for the sublimed, should be regarded as adulterated, since it contains foreign matter.

EXCHANGES. — Diatoms from Coorongite, from South Australia, for good mounted objects. Address GALLOWAY C. MORRIS, East Tulpehocken Street, Germantown, Phil.

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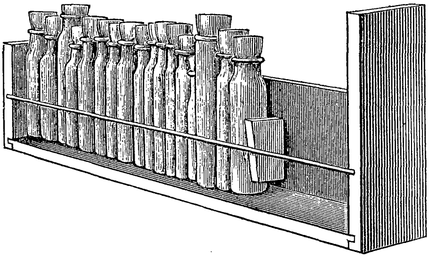
SCIENTIFIC NEWS.

— Every one who has occasion to use collections of small animals in alcohol knows the inconvenience of handling a large number of little bottles that will neither stand upright nor be still on their sides. If they are kept in boxes a large number have to be taken out one by one to find any particular bottle, and if they are set upon shelves the front ones are sure to be upset while searching among those in the rear. In taking care of a collection contained in several thousand bottles of this kind, the writer has been forced to contrive some method of arranging them in a small space, and at the same time so that each bottle can be quickly found when wanted, and finally had a case of drawers made which has served the purpose so well that he has thought it worth while to describe it for the benefit of those having charge of similar collections.



(FIG. 83.) VIAL HOLDER.

One of the drawers is shown in the cut. (Figure 83.) The front, back, bottom, and one side are made of wood one quarter of an inch thick, while the other side consists of a single wire which keeps the bottles in place while allowing their contents to be easily seen. The drawers are a foot long and an inch wide outside, giving a space three quarters of an inch wide for the bottles, which may be from a dram to half an ounce in size. The bottles stand loosely in a single row, and if the drawer is not full, a wedge of wood or cork placed between the wire and the opposite side keeps the end bottles from falling over. The backs and sides of the drawers are made lower than the bottles so that the latter can be more easily taken out and put in. The fronts are made as high as the highest bottles likely to be used, so that when the drawers are placed side by side on a shelf they may close entirely the space between it and the shelf above, and cover the bottles from dust and light. If the width of the shelves is slightly less than the length of the drawers no knobs or handles are needed, and the fronts can be used for labels. The drawers being all of the same size can be changed from one part of the case to another, and the whole collection be rearranged and new specimens introduced in their proper places without changing the bottles from drawer to drawer. Drawers on the same plan might be arranged for bottles of any size not too heavy, and specimens in alcohol be stored in them much more compactly than in the ordinary closets and trays, and at the same time be more easily examined and more quickly found when needed. — J. H. EMERTON.

— A new publication designed to elucidate the natural history of Illinois is the Bulletin of the Illinois Museum of Natural History. No. I. contains the following papers: List of Illinois Crustacea, by S. A. Forbes, with a Key; The Tree in Winter, by F. Brendel; Sodic Pinate as a Test for Lime, by J. A. Sewall; Partial Catalogue of the Fishes of Illinois, by E. W. Nelson; Upon Parasitic Fungi, by T. J. Burrill; A List of the Orthoptera of Illinois, by Cyrus Thomas.

— Packard's Half Hours with Insects,[1] which was originally issued in twelve numbers, has lately been published in book form. We desire to correct some typographical and other errors of importance. Page 187, in explanation of Fig. 187, for Bucculating *read* Bucculatrix. Page

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[1] Boston: Estes and Lauriat. 1877. 12mo, pp. 384. Illustrated. $2.50.

289, line 23, for *Disippus* read *Archippus*, and in line 25, for *Archippus* read *Disippus*. Page 305, line 13, for *sumac* read *cottonwood*, and on page 306, in explanation of Figure 236, for *sumac gall* read *vagabond gall*.

— L. Prang & Co., Art and Educational Publishers, Boston, Mass., announce the publication of The Yellowstone National Park, and the Mountain Regions of Portions of Nevada, Idaho, Colorado, and Utah. Described by Professor F. V. Hayden, Geologist-in-charge of the U. S. Government Expeditions to the Yellowstone Valley of the Years 1871 and 1872, and of the U. S. Geological and Geographical Survey of the Territories, and Illustrated by Chromo-Lithographic Reproductions of Water-Color Sketches taken by Thomas Moran.

— It is proposed to invite governmental geological surveys, learned societies, and private individuals, throughout the world, to send to the International Exhibition to be held at Paris in 1878 such collections as will make the geological department of that exhibition as complete as possible. In order to take advantage of the collections which may thus be brought together it is moreover proposed to convoke an International Geological Congress, to be held at Paris at some time during the Exhibition of 1878, and to make that congress an occasion for considering many disputed problems in geology. All American geologists interested in this project are invited to communicate with Prof. T. Sterry Hunt, Boston, Mass.

— Among recent zoölogical discoveries of interest is a new species of *Echidna* from New Guinea; a second species of that interesting lizard, *Sphenodon*, in one of the New Zealand Group; a new Leptocardian fish allied to Amphioxus, from Australia, named by Dr. Peters, *Epigomethys cultellus;* while the Persian deer (*Cervus maral*) is regarded by Dr. Severtzoff as identical with the Wapiti (*Cervus Canadensis*).

— A bed of pink coral has been discovered by the captain of the U. S. steamer Gettysburg, on her passage from Fayal to Gibraltar, in latitude 36° 30′ N., longitude 11° 38′ W. The least depth found was 30 fathoms, but the captain has no doubt that the coral comes to the surface at some point near the anchorage. Twenty miles west of the bank a depth of 16,500 feet was found, between this and Cape St. Vincent, 12,000 feet. The bank is rich in valuable coral of light pink shades. Full details of the discovery have been sent by the commander of the Gettysburg to the Navy Department, Washington, by mail.

— Professor F. de Hochstetter, formerly geologist of the Novara Expedition, and a distinguished investigator of the geology of New Zealand, has been appointed Superintendent of the Museum of the Imperial Geological Institute of Austria, and intrusted with its reorganization according to the plan approved by his Majesty. The construction of the new Museum of the Institute is in full progress. Mr. Francis Foetterle, the Vice-Director, has recently died, aged 53 years. He was attached to the Institute since its foundation in 1848.

— A Lyceum of Natural History has been established at Indianapolis, with Prof. E. T. Cox as President, and Mr. H. E. Copeland as Recording Secretary. At the first meeting after organization communications were made by Profs. John Myers, H. E. Copeland, and D. T. Jordan. The latter described the habits of a grasshopper destructive to corn and cotton in the Gulf States, while Professors Jordan and Copeland reported the discovery of the food of the Menomenee, or deep-water white fish of Lakes Superior and Michigan, fresh-water snails (*Physa* and *Limnæa*) having been found in the stomachs. We regret to announce that Mr. Copeland has, since the receipt of this notice, died.

PROCEEDINGS OF SOCIETIES.

Philosophical Society, Washington. — January 14, 1877. Mr. Gilbert, of Mr. Powell's Survey of the Rocky Mountain Region, read a paper on the Lake Bonneville basin, of which Great Salt Lake is the residue. Outlets to the north had been supposed on theoretical grounds to exist by several geologists, but he believed no one had published any actual identification of an outlet up to the present time. Such an outlet had been examined by him during the past summer, being a narrow cut through a mountain pass, of which the lower portion was formed through part of a bed of limestone while the upper portion of the banks were of gravel, inclined about 30°. The bed of the old channel now formed a continuous marsh. The old beaches which had been traced for many miles differed in level between the northern and southern limits as much as five hundred feet, the distance being about three hundred miles. The southern beaches were higher than those at Salt Lake and the northern ones lower, if observations by the aneroid barometer could be relied on. The speaker thought that this indicated a sinking of the land toward the north since the Glacial epoch, and taken in connection with the changes of outlet at Lake Winnipeg and elsewhere, he considered that it might be inferred that a general sinking of all northern land had taken place since that period.

February 10, 1877. Dr. Billings described some details of the methods employed in investigating the questions of the production of living organisms *de novo*, in suitable fluids from which external germs were excluded, and the "germ theory" of disease. He described a simple and apparently effectual method for protecting the fluid in a wine glass, for instance, by covering the glass with a watch-glass of a little larger diameter, with the convex side upward, the downward curvature of the edges of the watch-glass preventing the lateral introduction of currents of air and germs between the glasses, while the actual access of air was not interfered with. It is of course necessary to destroy anything which might adhere to the glasses before using, by exposing them to a very high temperature.